

WHAT IS CLAIMED IS:

1. A problem solving support system for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatuses, the system comprising:

execution program group storage files that include an execution program which executes a specified function of the electronic apparatuses for solving the problems by matching index word character strings that specify the function;

a dictionary database which includes element words corresponding to the index word character strings and indicating the concepts of the functions that the index word character strings show and character strings corresponding to the index word character strings and showing the readings of the index word character strings;

an input word judgment section which checks whether an input word is either kana or Roman alphabetic and whether the number of characters of the input word is within a predetermined number;

a forefront word matching processing section which searches said dictionary database based on the input word, extracts the index word character strings that match the input word with the first character of the character string showing the reading of the index word character string and displays the extracted index word character strings when the input word judgment section judges that the input word is either kana or Roman alphabetic and that the number of characters of the input word is within a predetermined number;

a search processing section which searches for the input word using the element word stored in said dictionary database, extracts the index word character strings which correspond to the element word included in the input word based on the search, and displays the extracted index word character strings when the input word judgment section judges that the input word is neither kana nor Roman alphabetic and that the number of characters of the input word is over a predetermined number; and

an execution processing section which executes the execution program which is stored in said execution program group storage files and which corresponds to the index word character strings to be executed when the user inputs an execution command for the index word character string displayed by said forefront word matching processing section or said search processing section.

2. The problem solving support system as claimed in claim 1, wherein said dictionary database comprises:

a merge dictionary which stores synonyms indicating concepts similar to the element word, which concepts corresponding to the element word; and

an index word database including the element word corresponding to the index word character strings and character strings indicating the readings of the index word character strings by corresponding to the index word character strings, and

said search processing section comprises:

an element word extract section which searches for the input word using the element word and synonyms stored in said merge dictionary when said input word judgment section

judges that the input word is neither kana nor Roman alphabetic and that the number of characters of the input word is over a predetermined number, said element word extract section extracts, based on a result of the search, the element word included in the input word and the element word corresponding to the synonyms included in the input word which is stored in said merge dictionary; and

an index word extract section which extracts the index word character strings which correspond to the element word from said index word database and displays the extracted index word character strings.

3. The problem solving support system as claimed in claim 1, wherein said input word judgment section accepts an input of the input word with a single input field.

4. The problem solving support system as claimed in claim 1, wherein said input word judgment section makes the judgment according to the input indicating that the input word is to determined.

5. The problem solving support system as claimed in claim 1, wherein the predetermined number is variable.

6. A problem solving support system for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatuses, the system comprising:

execution program group storage files that include an execution program which executes the specified function of said electronic apparatuses for solving the problems by

matching index word character strings that specify the function;

a dictionary database including element words which describe concepts of the functions which the index word character strings show, corresponding to the index word character strings;

a search processing section which searches for the input word using the element word stored in said dictionary database when the input word is input, and based on the search, extracts the index word character strings which correspond to the element word included in the input word from said dictionary database, and displays the extracted index word character string; and

an execution processing section which executes the execution program which is stored in said execution program group storage files and which corresponds to the index word character string to be executed when the user inputs an execution command for the index word character string displayed by said search processing section, wherein

said search processing section, said execution processing section, and said execution program group storage file are installed in a problem solving support terminal and said dictionary database is removable from the problem solving support terminal.

7. The problem solving support system as claimed in claim 6, wherein said dictionary database comprises:

a merge dictionary which stores synonyms indicating concepts similar to the element word, which concepts corresponding to the element word; and

an index word database including the element word related to the index word character strings, and

said search processing section comprises:

an element word extract section which searches for the input word using the element word and the synonyms when the input word is input, based on the search, and extracts the element word included in the input word and element word corresponding to the synonyms included in the input word which is stored in said merge dictionary; and

an index word extract section which extracts the index word character strings corresponding to the element word extracted by said element word extract section from said index word database and displays the extracted index word character strings.

8. A problem solving support system for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatuses, the system comprising:

execution program group storage files that include an execution program which executes a specified function of said electronic apparatuses for solving the problems by matching index word character strings that specify the function;

a dictionary database including element words which indicate concepts of the functions which the index word character strings, corresponding to the index word character strings;

a search processing section which searches for the input word using the element word stored in said dictionary database when the input word is input, and extracts, based

on the search, the index word character strings which correspond to the element word included in the input word from said dictionary database, and displays the extracted index word character string; and

an execution processing section which executes the execution program which is stored in said execution program group storage files and which corresponds to the index word character strings to be executed when the user inputs an execution command for the index word character string displayed by said search processing section, wherein

said search processing section, said execution processing section, and said execution program group storage file are installed in a problem solving support terminal and said dictionary database is installed in a server connected to the problem solving support terminal via a network.

9. The problem solving support system as claimed in claim 8, wherein said dictionary database comprises:

a merge dictionary which stores synonyms indicating concepts similar to the element word, which concepts corresponding to the element word; and

an index word database including the element word related to the index word character strings, and

said search processing section comprises:

an element word extract section which searches for the input word using the element word and the synonyms when the input word is input, and extracts, based on the search, the element word included in the input word and element word corresponding to the synonyms included in the input word which is stored in said merge dictionary; and

an index word extract section which extracts the index word character strings corresponding to the element word extracted by said element word extract section from said index word database and displays the extracted index word character strings.

10. The problem solving support system as claimed in claim 6, wherein said dictionary database comprises the element words which are different according to the attributes of the user.

11. The problem solving support system as claimed in claim 6, further comprising a non-corresponding input processing section which collects the input words which have been judged not to include the element words by said search processing section in order of frequency of appearance and outputs the input words appearing more often than a predetermined frequency.

12. The problem solving support system as claimed in claim 11, wherein said non-corresponding input processing section outputs the input words appearing more often than the predetermined frequency corresponding to the attributes of the user and outputs them.

13. The problem solving support system as claimed in claim 11, wherein said non-corresponding input processing section stores index word character strings which specify functions immediately selected by the users corresponding to the input words and registers input words corresponding to the index word character strings more often than a

predetermined frequency as element words of the index word character strings in said dictionary database when the input words are judged not to include the element words.

14. A problem solving support system for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatuses, the system comprising:

- execution program group storage files that include an execution program which executes the specified function of said electronic apparatuses for solving the problems by matching index word character strings that specify the function;

- a dictionary database including element words which describe the concepts of the functions which the index word character strings show, the concepts corresponding to the index word character strings;

- a search processing section which searches for the input word using the element word stored in said dictionary database when the input word is input, and based on the search, extracts the index word character strings which corresponds to the element word included in the input word from said dictionary database, and displays the extracted index word character string;

- an execution processing section which remotely controls the electronic apparatuses through the execution of the execution program which is stored in said execution program group storage files and which corresponds to the index word character string to be executed when the user inputs an execution command; and

an update control section which obtains an execution program for executing the new functions of a new electronic apparatus which is remotely operated by said execution processing section, the index word character strings specifying the new function, and the element word related to the index word character strings, corresponds to the obtained index word character strings, stores the obtained execution program in said execution program group storage file, and stores the obtained element words in said dictionary database.

15. The problem solving support system as claimed in claim 14, wherein said dictionary database comprises:

a merge dictionary which stores synonyms indicating concepts similar to the element word, which concepts corresponding to the element word; and

an index word database including the element word related to said index word character strings, and

said search processing section comprises:

an element word extract section which searches for the input word using the element word and the synonyms when the input word is input, based on the search, and extracts the element word included in the input word and element word corresponding to the synonyms included in the input word which is stored in said merge dictionary; and

an index word extract section which extracts the index word character strings corresponding to the element word extracted by said element word extract section from said index word database and displays the extracted index word character strings.

16. The problem solving support system as claimed in claim 14 wherein at least either the execution program for the new electronic apparatus or the element words correspond to the index word character strings corresponding to the new electronic apparatus, and is stored in a removable record medium.

17. A problem solving support system for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatuses, the system comprising:

- execution program group storage files that include an execution program which executes the specified function of said electronic apparatuses for solving the problems by matching index word character strings that specify the function;

- a dictionary database including element words which includes element words indicating the concept of the functions which the index word character strings show and the importance of the functions specified by the index word character strings;

- a search processing section which searches for the input word using the element word stored in said dictionary database, extracts the index word character strings which correspond to said element word included in the input word based on the search, and displays extracted the index word character strings with an order of high importance when the input word is input; and

- an execution processing section which executes the execution program which is stored in the execution program group storage files and which corresponds to said index

word character string to be executed when the user inputs an execution command for the index word character strings displayed by said search processing section.

18. The problem solving support system as claimed in claim 17, wherein said dictionary database comprises:

- a merge dictionary which stores synonyms indicating concepts similar to the element word corresponding to the element word; and

- an index word database including said element word related to said index word character strings, and

- said search processing section comprises:

- an element word extract section which searches for the input word using the element word and synonyms when the input word is input, based on the search, and extracts the element word included in the input word and element word corresponding to the synonyms included in the input word which is stored in said merge dictionary; and

- said index word extract section extracts the index word character strings corresponding to the element word, said element word extract section extracts and displays the extracted index word character strings with an order of high importance.

19. A problem solving support method for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatuses, the method comprising steps of:

- an execution program group control step for controlling an execution program for executing the problem-solving functions which executes the specified function by

matching index word character strings that specify the functions of the electronic apparatuses;

a dictionary control step for controlling element words indicating the concepts of the functions which the index word character strings show and character strings showing the readings of said index word character strings;

an input word judgment step for accepting the input of the input word by user and checking whether an input word is either kana or Roman alphabetic and whether the number of characters of the input word is within a predetermined number;

a forefront word matching processing step for referring to said dictionary control step based on the input word to extract the index word character strings that match the input word with the first character of the character string showing the reading of the index word character string when it is judged that the input word is either kana or Roman alphabetic and that the number of characters of the input word is within a predetermined number and for displaying the extracted index word character strings;

a search processing step for searching for the input word using the element word stored in the dictionary database controlled by said dictionary control step, extracts the index word character strings which correspond to the element word included in the input word based on the search, and displays the extracted index word character strings when the input word judgment step judges that the input word is neither kana nor Roman alphabetic and that the number of characters of the input word is over a predetermined number; and

an execution processing step for executing the execution program which corresponds to the index word character strings to be executed and is controlled under said execution program group control step when the user inputs an execution command for the index word character strings displayed by said forefront word matching processing step or said search processing step.

20. A problem solving support method for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatuses, the method comprising steps of:

an execution program group control step for controlling an execution program for executing the problem-solving functions which executes the specified function by matching index word character strings that specify the functions of the electronic apparatuses;

a dictionary control step for controlling element words corresponding to the index word character strings and indicating the concepts of the functions which the index word character strings show;

a search processing step for searching for the input word using the element word stored in the dictionary database controlled by said dictionary control step, extracting the index word character strings which correspond to the element word included in the input word based on the search, and displaying the extracted index word character strings when the input word is input;

an execution processing step for remotely controlling the electronic apparatuses by executing the execution program corresponding to the index word character string to

be executed in the execution program group control step when the user inputs an execution command for the index word character strings displayed in said search processing step; and

an update control step for obtaining an execution program for executing the new functions of a new electronic apparatus which is remotely operated during said execution processing step, the index word character strings specifying the new function, and the element words related to the index word character strings, by matching the obtained index word character strings, controlling the obtained execution program in said execution program group control step, and controls the obtained element words in said dictionary control step.

21. A problem solving support program for a problem solving support system for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatuses, the program causes the problem solving support system to realize:

an execution program group control function that controls an execution program for executing the problem-solving functions by matching index word character strings that specify the functions of the electronic apparatuses;

a dictionary control function which controls element words indicating the concepts of the functions which the index word character strings show and character strings showing the readings of the index word character strings;

an input word judgment function which accepts the input of the input word by user and checks whether an input word is either kana or Roman alphabetic and whether the

number of characters of the input word is within a predetermined number;

a forefront word matching processing function which checks the dictionary control function based on the input word, extracts the index word character strings that match the input word with the first character of the character string showing the reading of the index word character string when the input word is judged to be either kana or Roman alphabetic and that the number of characters of the input word is within a predetermined number and displays the extracted index word character strings;

a search processing function which searches for the input word using the element word controlled by the dictionary control function, extracts the index word character strings which correspond to the element word included in the input word based on the search, and displays the extracted index word character strings when the input word judgment function judges that the input word is neither kana nor Roman alphabetic and that the number of characters of the input word is over a predetermined number; and

an execution processing function which executes said execution program which corresponds to the index word character strings to be executed and is controlled by the execution program group control function when the user inputs an execution command for the index word character strings displayed by the forefront word matching processing function or said search processing function.

22. A medium storing a problem solving support program for a problem solving support system for supporting

problem solving for electronic apparatus users based on words input by the users on how to use the apparatus, the program causes the problem solving support system to realize:

- an execution program group control function that controls an execution program for executing the problem-solving functions by matching index word character strings that specify the functions of the electronic apparatuses;

- a dictionary control function which controls element words indicating the concepts of the functions which the index word character strings show;

- a search processing function which searches for the input word using the element word controlled by the dictionary control function, extracts the index word character strings which correspond to the element word included in the input word based on the search, and displays the extracted index word character strings when the input word is input;

- an execution processing function which remotely controls the electronic apparatus by executing the execution program which corresponds to the index word character strings to be executed and is controlled by the execution program group control function when the user inputs an execution command for the index word character strings displayed by the search processing function; and

- an update control function which obtains an execution program for executing the new functions of a new electronic apparatus which is remotely operated by the execution processing function, the index word character strings specifying the new functions, and the element words related to the index word character strings, corresponds to the

obtained index word character strings, makes the execution program group control function to control the obtained execution program, and makes the dictionary control function to control the obtained element words.

23. The problem solving support program as claimed in claim 8, wherein said dictionary database comprises the element words which are different according to the attributes of the user.

24. The problem solving support program as claimed in claim 8, further comprising a non-corresponding input processing section which collects the input words which have been judged not to include the element words by said search processing section in order of frequency of appearance and outputs the input words appearing more often than a predetermined frequency.